

ABSTRACT

An integrated circuit fabricated on a single substrate that includes a data bus and purpose-specific functional units connected to the data bus. The functional units include a
5 halftoner and a printhead interface. A general-purpose processor is connected to the data bus for controlling the functional units, and for coordinating the functional units to print pages. The halftoner may halftone contone color data to a bi-level color layer, and then composit a bi-level black layer over the bi-level color layer.